1. (Previously amended) A disk brake rotor having a grey cast iron composition, wherein said composition comprises between 0.675 and 1.2% by weight of copper, and a plurality of hard carbide forming metals including both vanadium and titanium, the vanadium content being between 0.35 and 0.45% by weight and the titanium content being between 0.025 and .035% by weight, the ratio between the weight of copper present and the total weight of said hard carbide forming metals being 1.8 to 3 units of copper to 1 unit of the hard carbide forming metals.

2. (Previously amended) A disc brake rotor according to claim 1, wherein the hard carbide forming metals also include one or more of tungsten, molybdenum, chromium, and niobium.

3. (Previously amended) A disc brake rotor according to claim 1, wherein the weight of vanadium present in the composition is less than or equal to one half of the weight of copper present added to 20 times the weight of titanium present.

4. (Previously amended) A disc brake rotor according to claim 1, wherein the carbon equivalent of the composition is between 4.2 and 4.55.

5. (Cancelled)

6. (Cancelled)

7 (Previously amended) A disc brake rotor according to claim 1, wherein the copper content of the composition is between 0.7 and 0.9 wt%.

8. (Previously amended) A disc brake rotor according to claim 2, wherein the weight of vanadium present in the composition is less than or equal to one half of the weight of copper present added to 20 times the weight of titanium present.

9. (New) A disk brake rotor having a grey cast iron composition, wherein said composition comprises between 3.5 and 3.8% by weight carbon, between 2.00 and 2.20% by weight silicon, between 0.60 and 0.80% manganese, no more than 0.10% phosphorous, no more than 0.15% sulphur, between 0.675 and 1.2% by weight of copper, and a plurality of hard carbide forming metals including both vanadium and titanium, the vanadium content being between 0.35 and 0.45% by weight and the titanium content being between 0.025 and .035% by weight, the ratio between the weight of copper present and the total weight of said hard carbide forming metals being 1.8 to 3 units of copper to 1 unit of the hard carbide forming metals.

10. (New) A disc brake rotor according to claim 9, wherein the hard carbide forming metals also include one or more of tungsten, molybdenum, chromium, and niobium.

11. (New) A disc brake rotor according to claim 9, wherein the weight of vanadium present in the composition is less than or equal to one half of the weight of copper present added to 20 times the weight of titanium present.

12. (New) A disc brake rotor according to claim 9, wherein the carbon equivalent of the composition is between 4.2 and 4.55.

13. (New) A disc brake rotor according to claim 9, wherein the copper content of the composition is between 0.7 and 0.9 wt%.

14. (New) A disc brake rotor according to claim 10, wherein the weight of vanadium present in the composition is less than or equal to one half of the weight of copper present added to 20 times the weight of titanium present.

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